

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace prior versions and listings of claims in the application:

Claims 7, 9, 12-13, 18, 20 and 23 have been amended as follows: Underlines indicate insertions and ~~strike through~~ indicate deletions. Claims 1-6, 8, 10-11, 14-17, 19, 21-22 and 24-25 were cancelled and claims 26-27 are new.

Listing of claims:

1. – 6. (Cancelled)

7. (Currently amended) A method for enhancing expansion of a stem cell population, the method comprising directly delivering in a stem cell population an effective amount of thea stem cell expansion factor of ~~claim 1~~which comprises a HOXB4 protein and a NH₂-terminal protein transduction domain (PTD) from a transactivating protein (TAT), whereby said ~~amino acid sequence~~ stem cell expansion factor is able to cross a cell membrane and is substantially active in said stem cell population, thereby enhancing expansion of said stem cell population.

8. (cancelled)

9. (Currently amended) ~~A~~The method ~~according to~~of claim 7, wherein the amino acid sequence is delivered in said stem cell population *in vivo*.

10. –11. (Cancelled)

12. (Currently amended) ~~A~~The method ~~according to~~of claim 11, wherein said stem cell is a hematopoietic stem cell.

13. (Currently amended) ~~A~~The method ~~according to~~of claim 12, wherein said hematopoietic stem cell is a human hematopoietic stem cell.

14. – 17. (cancelled)

18. (Currently amended) A method for restoring a patient hematopoietic capability, said method comprising directly delivering in a hematopoietic stem cell population of a patient ~~the~~a stem cell expansion factor ~~of claim 1~~ which comprises a HOXB4 protein and a NH₂-terminal protein transduction domain (PTD) from a transactivating protein (TAT), wherein said ~~amine acid sequence~~ stem cell expansion factor is able to cross a cell membrane and is substantially active in said hematopoietic stem cell, thereby enhancing expansion of said hematopoietic stem cell population and restoring hematopoietic capability of said patient.

19. (Cancelled)

20. (Currently amended) ~~A~~The method ~~according to~~of claim 18, wherein said amino acid sequence is delivered in said hematopoietic stem cell *in vivo*.

21. (Cancelled)

22. (Cancelled)

23. (Currently amended) ~~A~~The method ~~according to~~of claim ~~19~~18, wherein said hematopoietic stem cell is a human hematopoietic stem cell.

24. – 25. (Cancelled)

26. (New) The method of claim 7, wherein the amino acid sequence is delivered in said stem cell population *in vitro*.

27. (New) The method of claim 18, wherein said amino acid sequence is delivered in said hematopoietic stem cell *in vitro*.